

### Additional File 3: Proteins Specific for Flavobacteria that are missing in several species

orf No. [Accession No.]	Possible/Predicted Function	Genome ID No. [Accession No.]	Possible/Predicted Function
orf31 [CAL65021]	hypothetical protein	orf1584 [CAL66570]	secreted protein
orf34 [CAL65024]	secreted protein	orf1661 [CAL66647]	hypothetical protein
orf48 [CAL65037]	secreted protein	orf1755 [CAL66741]	hypothetical protein
orf67 [CAL65056]	conserved hypothetical protein	orf1764 [CAL66750]	membrane protein
orf137 [CAL65126]	secreted protein	orf1769 [CAL66755]	hypothetical protein
orf150 [CAL65139]	hypothetical protein	orf1790 [CAL66776]	hypothetical protein
orf177 [CAL65166]	membrane protein	orf1798 [CAL66784]	hypothetical protein
orf231 [CAL65220]	hypothetical protein	orf1848 [CAL66834]	membrane or secreted protein
orf246 [CAL65235]	membrane protein	orf1855 [CAL66841]	secreted protein
orf249 [CAL65238]	hypothetical protein	orf1868 [CAL66854]	membrane protein
orf259 [CAL65248]	hypothetical protein	orf1869 [CAL66855]	membrane protein
orf341 [CAL65330]	secreted protein	orf1876 [CAL66862]	hypothetical protein
orf332 [CAL65321]	secreted protein	orf1903 [CAL66887]	hypothetical protein
orf347 [CAL65336]	membrane protein	orf1912 [CAL66896]	hypothetical; COG0626, MetC
orf459 [CAL65448]	hypothetical protein	orf2042 [CAL67026]	membrane or secreted protein
orf470 [CAL65459]	membrane protein	orf2160 [CAL67144]	hypothetical protein
orf467 [CAL65456]	membrane protein	orf2183 [CAL67167]	hypothetical; DUF704, Aha1 domain
orf479 [CAL65468]	hypothetical protein	orf2193 [CAL67177]	secreted protein
orf484 [CAL65473]	hypothetical protein	orf2223 [CAL67207]	hypothetical protein
orf503 [CAL65492]	conserved hypothetical protein, secreted	orf2289 [CAL67273]	hypothetical protein
orf520 [CAL65509]	membrane protein	orf2317 [CAL67301]	membrane protein
orf557 [CAL65546]	hypothetical protein	orf2318 [CAL67302]	hypothetical protein
orf568 [CAL65557]	Hypothetical protein-possible UDP-glycosyltransferase; COG0707, MurG	orf2483 [CAL67467]	hypothetical protein
orf603 [CAL65590]	hypothetical protein	orf2531 [CAL67515]	hypothetical protein
orf604 [CAL65591]	membrane protein	orf2548 [CAL67532]	hypothetical protein
orf663 [CAL65650]	hypothetical protein	orf2553 [CAL67537]	hypothetical protein
orf697 [CAL65684]	hypothetical protein	orf2611 [CAL67595]	membrane protein
orf720 [CAL65707]	hypothetical protein	orf2632 [CAL67616]	conserved hypothetical protein, membrane
orf781 [CAL65768]	hypothetical protein	orf2635 [CAL67619]	secreted protein
orf825 [CAL65812]	hypothetical protein	orf2672 [CAL67656]	membrane or secreted protein
orf844 [CAL65831]	secreted protein	orf2685 [CAL67669]	hypothetical protein
orf911 [CAL65898]	secreted protein	orf2729 [CAL67713]	secreted protein; COG2367, PenP
orf944 [CAL65931]	hypothetical protein	orf2733 [CAL67717]	membrane protein
orf969 [CAL65956]	secreted protein	orf2770 [CAL67754]	hypothetical protein
orf970 [CAL65957]	secreted protein	orf2772 [CAL67756]	membrane protein
orf971 [CAL65958]	secreted protein	orf2781 [CAL67765]	secreted protein
orf989 [CAL65976]	secreted protein	orf2827 [CAL67811]	secreted protein
orf1080 [CAL66067]	hypothetical protein	orf2843 [CAL67827]	hypothetical protein
orf1045 [CAL66032]	hypothetical protein	orf2904 [CAL67886]	hypothetical protein
orf1049 [CAL66036]	membrane protein	orf2909 [CAL67891]	hypothetical protein
orf1054 [CAL66041]	hypothetical protein	orf2918 [CAL67900]	membrane protein
orf1063 [CAL66050]	hypothetical protein	orf2930 [CAL67912]	membrane protein
orf1120 [CAL66107]	hypothetical protein	orf2960 [CAL67942]	secreted protein
orf1153 [CAL66140]	secreted protein	orf3011 [CAL67993]	secreted protein; cd03467, Rieske
orf1156 [CAL66143]	copper resistance protein A precursor	orf3054 [CAL68036]	membrane protein
orf1159 [CAL66146]	membrane or secreted protein	orf3067 [CAL68049]	hypothetical protein
orf1172 [CAL66159]	hypothetical protein	orf3075 [CAL68057]	secreted protein
orf1177 [CAL66167]	hypothetical protein	orf3084 [CAL68066]	membrane or secreted protein
orf1201 [CAL66188]	membrane protein	orf3090 [CAL68072]	hypothetical protein
orf1223 [CAL66210]	secreted protein	orf3095 [CAL68077]	hypothetical protein
orf1225 [CAL66212]	hypothetical protein	orf3101 [CAL68083]	secreted protein
orf1228 [CAL66215]	hypothetical protein	orf3143 [CAL68125]	secreted protein
orf1237 [CAL66224]	secreted protein	orf3149 [CAL68131]	secreted protein; COG3047, OmpW

orf1302 [CAL66289]	secreted protein	orf3188 [CAL68170]	hypothetical protein
orf1304 [CAL66291]	secreted protein	orf3207 [CAL68190]	secreted protein
orf1314 [CAL66301]	secreted protein	orf3215 [CAL68198]	secreted protein
orf1341 [CAL66328]	hypothetical protein	orf3216 [CAL68199]	hypothetical protein
orf1346 [CAL66333]	membrane or secreted protein	orf3221 [CAL68204]	hypothetical protein
orf1350 [CAL66337]	conserved hypothetical protein, membrane	orf3224 [CAL68207]	membrane or secreted protein
orf1354 [CAL66341]	membrane protein	orf3265 [CAL68248]	membrane protein
orf1374 [CAL66361]	Transposase 8, pfam01527	orf3344 [CAL68327]	secreted protein
orf1410 [CAL66397]	membrane protein	orf3380 [CAL68363]	membrane protein
orf1413 [CAL66400]	secreted protein	orf3385 [CAL68368]	secreted protein
orf1417 [CAL66404]	membrane or secreted protein	orf3407 [CAL68390]	secreted protein
orf1419 [CAL66406]	cbb3-type cytochrome oxidase maturation protein; COG3197, FixS	orf3410 [CAL68393]	secreted protein
orf1421 [CAL66408]	hypothetical protein	orf3436 [CAL68419]	membrane protein
orf1437 [CAL66424]	hypothetical protein	orf3449 [CAL68432]	membrane protein
orf1451 [CAL66438]	secreted protein	orf3450 [CAL68433]	membrane protein
orf1487 [CAL66474]	hypothetical protein	orf3477 [CAL68460]	hypothetical protein
orf1510 [CAL66497]	hypothetical protein	orf3540 [CAL68523]	conserved hypothetical protein, membrane
orf1582 [CAL66569]	hypothetical protein	orf3577 [CAL68560]	secreted protein

All significant hits for these proteins are also from *Flavobacteriales* species. However, unlike the proteins listed in Table 5, these proteins are either present in only a small number of Flavobacteria or are missing from many species.

Of the proteins listed in this table and Table 5, the following proteins are homologous to each other: CAL67682, CAL67684; CAL67899, CAL66301, CAL66210; CAL65021, CAL66159; CAL65056, CAL65220; CAL65898, CAL66289; CAL66140, CAL66212, CAL66215, CAL67886, CAL67891; CAL65459, CAL65456; CAL66647, CAL66887; CAL65957, CAL65958.